

Perspectives on Student Achievement

School and Classroom Factors that Predict
High Student Achievement

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Education Task Force

Utah State Legislature

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Thank You, Legislature

“The purpose of the Center is to promote best practices in the state's public education system and encourage cooperative and research development relationships between public and higher education.”

H.B. 7 (1999 General Session)

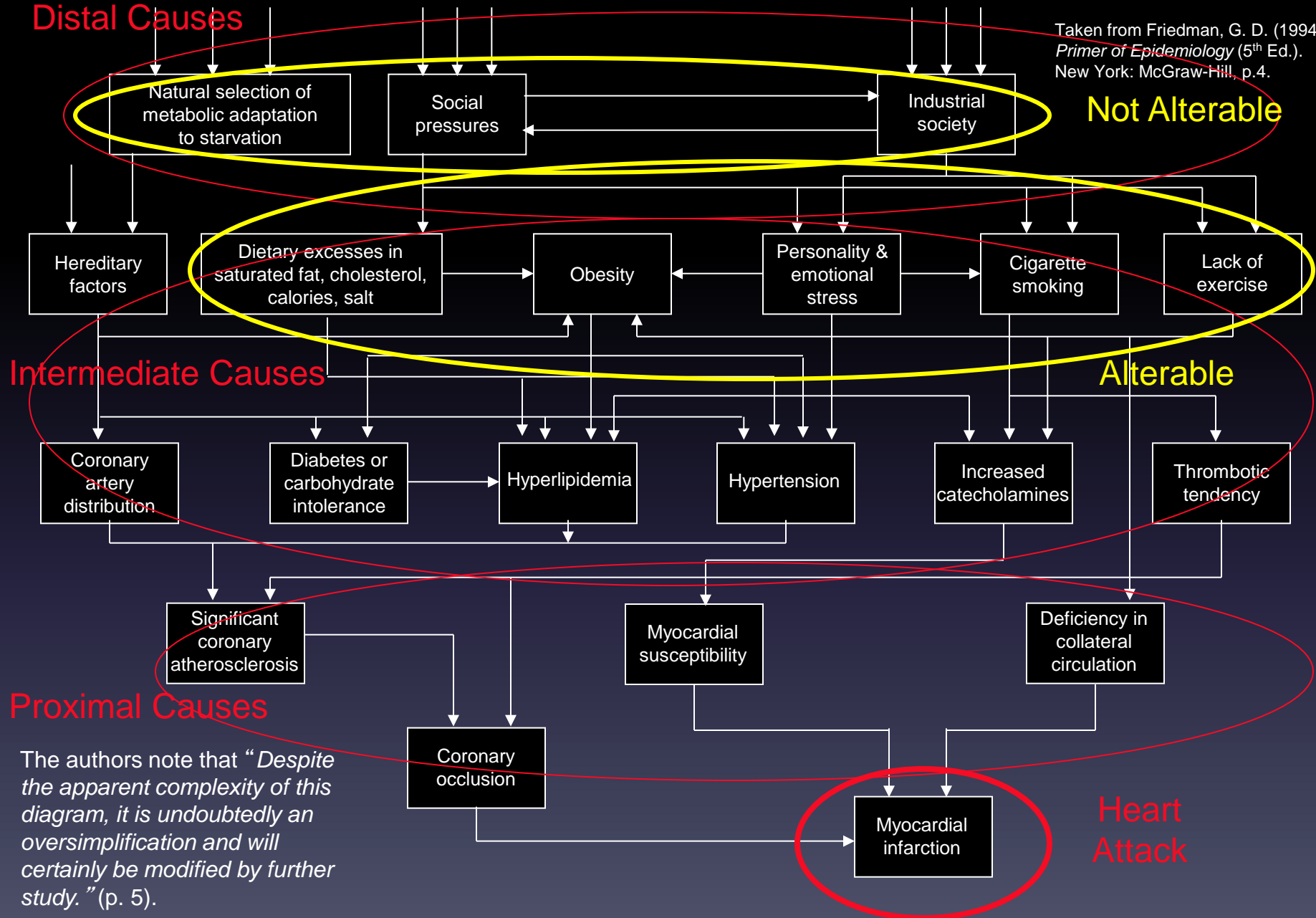
What Causes (Contributes to) Student Achievement?

It's simple, right?

Web of Causation for Myocardial Infarction (Heart Attacks)

Distal Causes

Taken from Friedman, G. D. (1994).
Primer of Epidemiology (5th Ed.).
New York: McGraw-Hill, p.4.



Intermediate Causes

Proximal Causes

The authors note that “Despite the apparent complexity of this diagram, it is undoubtedly an oversimplification and will certainly be modified by further study.” (p. 5).

OK, It's Complicated

A single event has many causes or contributing factors.
Some factors are beyond our control.
Others are within our grasp.

Let's think about the factors that are within our control
that also create the biggest impact for student achievement and
school quality.

Let's UN-Complicate It

- We have studied 2,500 schools in Utah, 13 additional states, and three foreign countries
- We have obtained from...
 - Students (more than 1,400,000 of them)
 - Teachers (more than 80,000 of them)
 - Parents (more than 1,000,000 of them)...reports of specific school characteristics, attributes, practices, and conditions

Then, We Compared these Reports to Schools' Academic Achievement

Here's what we found...

We Confirmed What Many Other Researchers Have Already Said

- Family and Neighborhood Economic and Social Conditions Matter
- School and Teacher Characteristics Matter

But, We Learned Some New, and Very Important Things That Challenge Some Notions We've Held for A Long Time

- What teachers do everyday in the classroom matters most—and, in fact, can overcome the effects of most of the other variables/factors.

And, The Most Successful
Teachers Do Things They Likely
Were Not Taught In College

And, these teachers may not even have the
latest and greatest materials and resources

They Know How to Create the CONDITIONS Students Need to Learn



A clear understanding of high expectations for academic and behavioral performance;



Presence of fundamental skills that give the student hope that expectations can be achieved if provided sufficient opportunities;

CONDITIONS con't



A reasonable likelihood that efforts to meet the high expectations will be recognized and rewarded;



The presence of an adult who can be trusted to provide help and support, if needed.

Interpreting Correlations

(Predictive Relationships Among Variables)

Winner & Hetland, Harvard Graduate School of Education, 2001

- $+1.00$ would mean a perfect positive correlation between two variables
- r of $.10$ is considered **small** in size...
- r of $.24$ is considered **medium** in size...
- r of $.37$ is considered **large** in size...

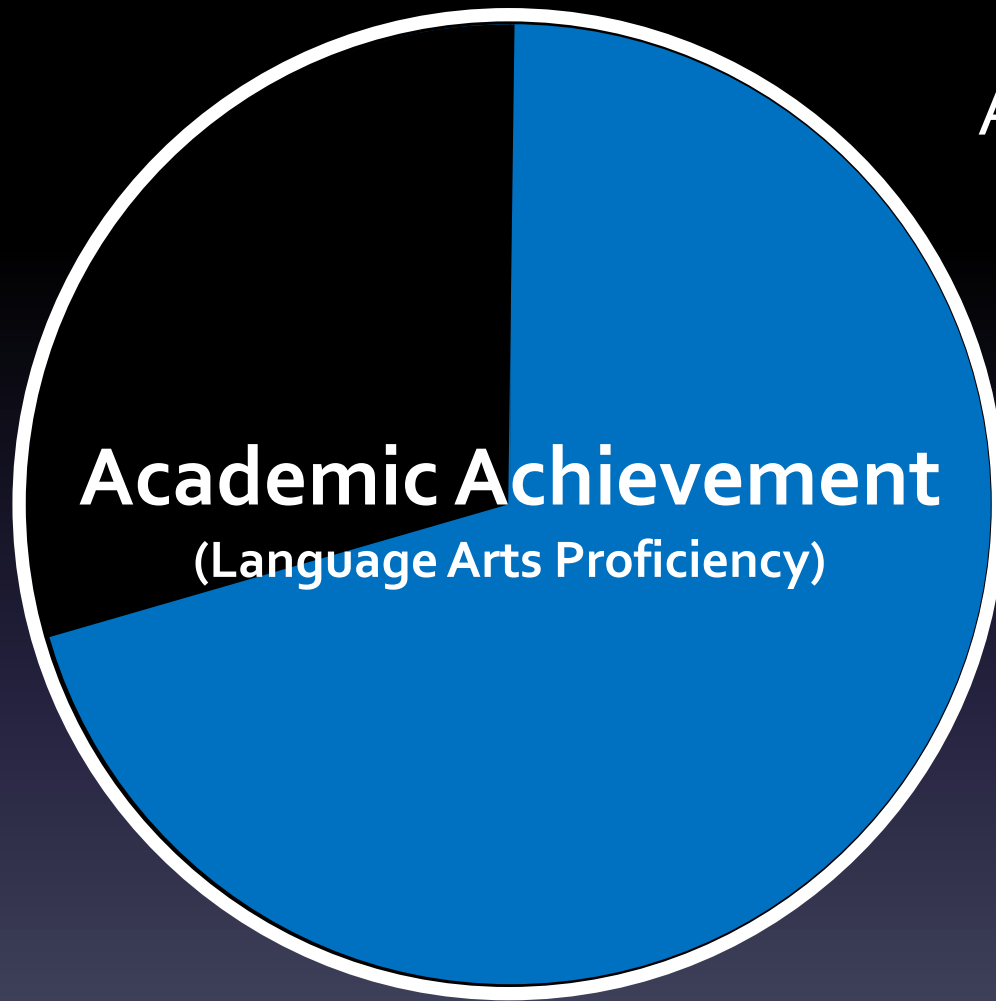
Conditions for Learning

Predict Critical School Outcomes

127 Elementary and 27 High Schools in Utah

	All Four Conditions Present
Elementary Students	
Average Daily Attendance	$r = .51$
Proficiency in CRT Language Arts	$r = .80$
Proficiency in CRT Math	$r = .79$
Proficiency in CRT Science	$r = .76$
Secondary Students	
Average Daily Attendance	$r = .21$
Proficiency in CRT Language Arts	$r = .48$
Proficiency in CRT Math	$r = .64$
Proficiency in CRT Science	$r = .62$

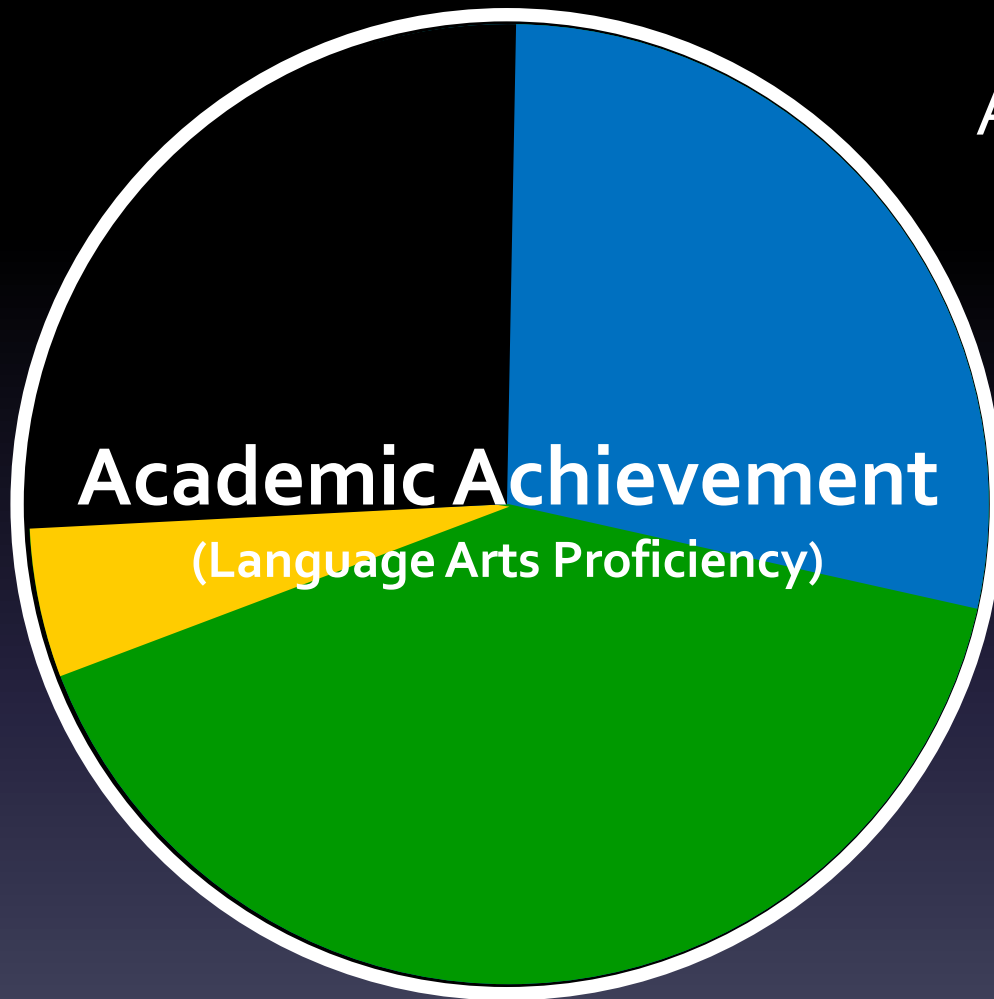
The Conditions for Learning
Account for a Greater Portion of
Variance of Academic
Achievement than Does SES



Percent of Academic
Achievement Accounted
for by...

Conditions for Learning

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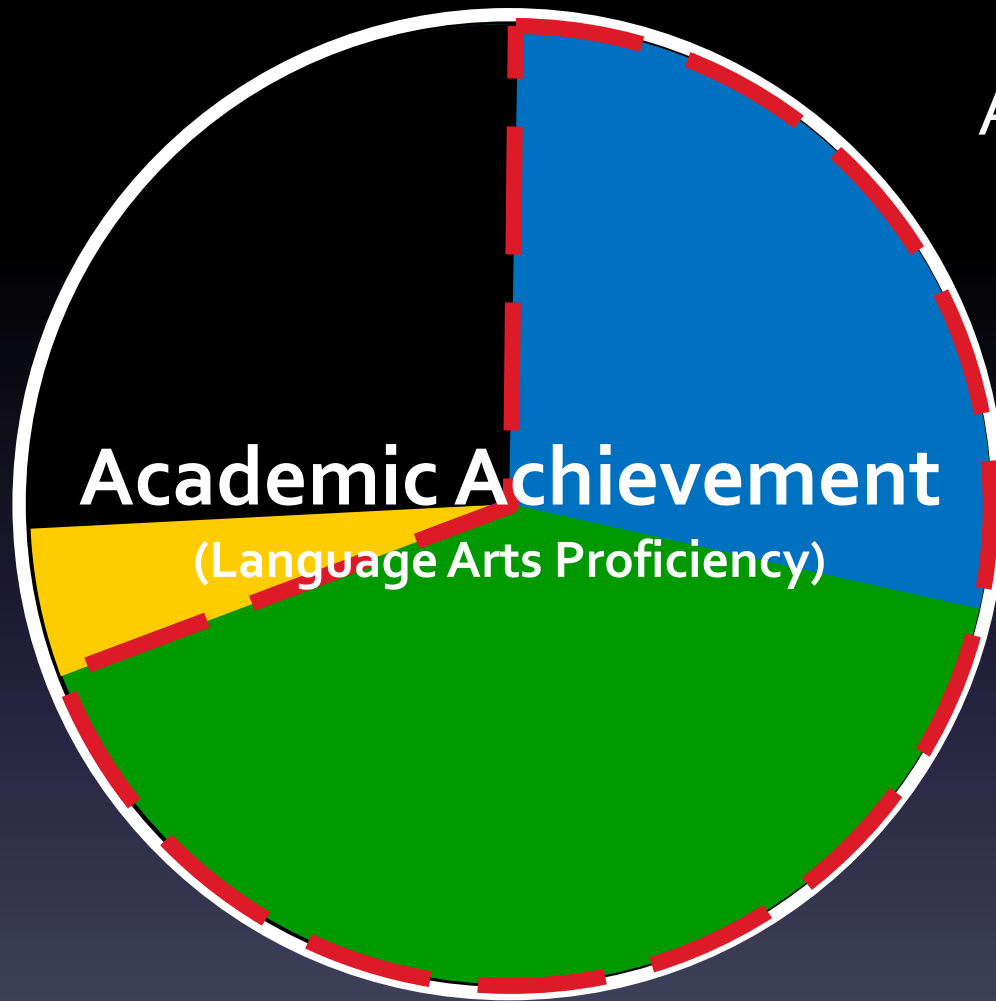
Conditions for Learning 28%

Socioeconomic Status 7%

Overlap (Shared) 39%

Unexplained 26%

The Conditions for Learning Account for a Greater Portion of Variance of Academic Achievement than Does SES



Percent of Academic
Achievement Accounted
for by...

67%

Conditions for Learning 28%

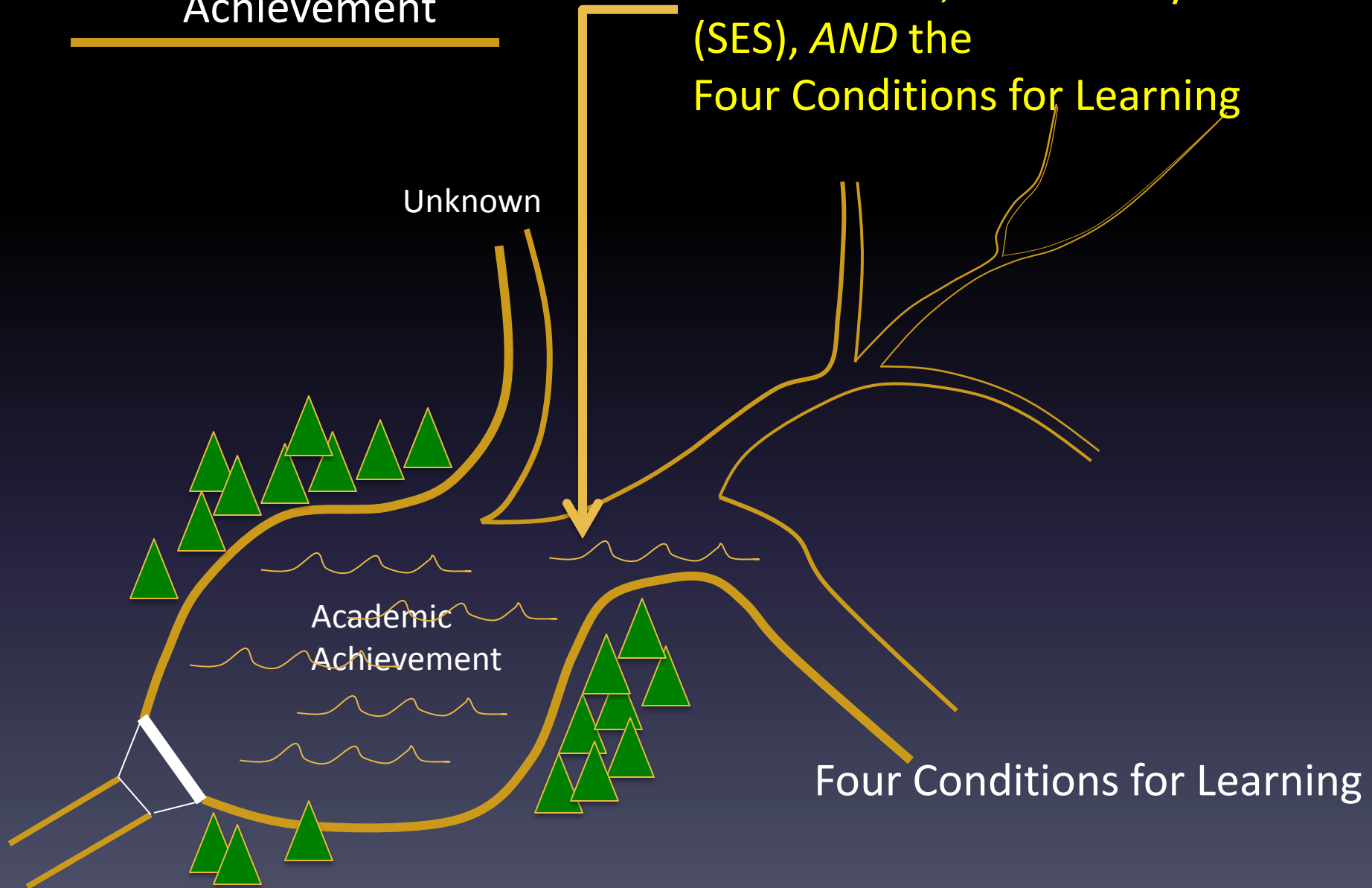
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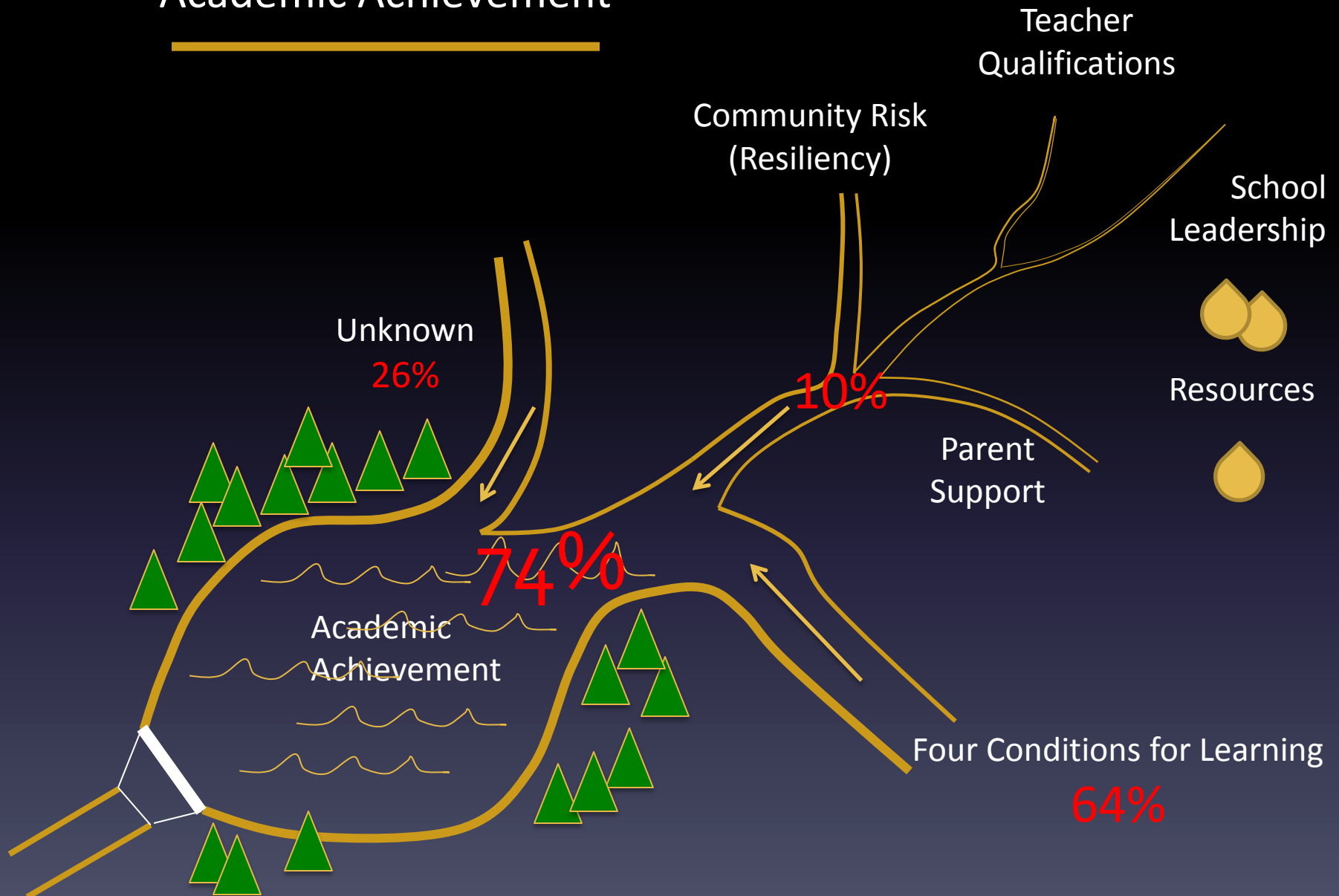
Unexplained 26%

"Sources" of Academic Achievement

74% from the School Learning Environment, Community Risk (SES), AND the Four Conditions for Learning



Contributions to Academic Achievement



It would be a MISTAKE to say that
parent support, school leadership,
and teacher quality are NOT
important...

They are...

But, they would be even more important in predicting
academic achievement if they were coordinated, and
directed toward creating the Conditions for Learning.

Ranking Teachers, Grading Schools

"...ranking teachers on the basis of their student test scores ... scapegoat[s] teachers for the so-called **achievement gap** between the scores of whites and Asians and those of blacks and Latinos.

The ...assumption of this movement is that students are receptive vessels eager to be filled with knowledge if teachers just straightened up.

The effects of family background, poverty, ethnic culture and other politically charged factors are ignored in favor of the myth that teachers can make up for any deficiency."

Patrick Welsh

USA TODAY, June 5, 2013

"Don't Judge Teachers on Test Scores"

Conditions for Learning

Explain Achievement Gap

Elementary Students		African American	American Indian	Asian/Pac Islander	Hispanic	White
District ISQ Data		n=224	n=382	n=100	n=1,465	n=2,440
Clear Expectations (%)		57	61	71	70	81
Building Skills (%)	Social Skills (%)	75	81	86	82	82
	Academic Skills (%)	73	67	77	70	79
Rewards & Recognition (%)		81	83	87	84	85
Trusting Relationships (%)		82	78	87	80	85
All Four (%)		25	29	47	36	48
District Test Data		n=167	n=341	n=115	n=2,662	n=4,576
Language Arts Proficiency (%)		60	34	83	51	75
Math Proficiency (%)		40	41	76	43	74
State Test Data		n=3,253	n=3,171	n=7,283	n=32,875	n=189,650
Language Arts Proficiency (%)		62	55	78	58	84
Math Proficiency (%)		56	55	76	56	82

The groups with the highest percentage of the ALL FOUR CONDITIONS also had the highest test scores

Teachers can “make up for the
deficiency” ...

...if they are allowed to be accountable for
variables under their control, such as the
conditions for learning

Even When Controlling for Other Variables, the Conditions for Learning Predict Language Arts Proficiency Better than Does DIBELS

Independent Variable	Control Variables	Dependent Variable	Partial Correlation
DIBELS (% passing)	Total risk categories AND Percent of students with all conditions	Language Arts Proficiency	.383*
All Conditions (% students with all conditions)	Total risk categories AND DIBELS (% passing)	Language Arts Proficiency	.452*

* $p < .05$

K.S. Janzen (2013) Examining relationships among student interim proficiency, school environment, and student end-of-year proficiency. Dissertation, Utah State University.

Schools in Utah, and in Many Other States, Have Highly Qualified Teachers and a Challenging Curriculum

But, many students in those schools lack the critical conditions for learning that could help them take full advantage of their teachers' knowledge and curricular materials.

Some Schools are Focusing More on the Conditions for Learning

Emphasizing the conditions that may have been
neglected, but are truly necessary for students
to learn

Granger High School

- ❑ Total Enrollment 1,660
- ❑ Located in West Valley City, UT
- ❑ 57.83% eligible for free or reduced lunch
- ❑ 31 languages
- ❑ Lowest graduation rate of traditional UT high schools



Granger High School

SIG for School Turnaround

New Administrative Team in 2010

Three programs:

- *Administrative Intervention*
- *SHIELD*
- *Lancer Pride*



Designed Around Transformational Change

The Conditions for Learning:



Clear Expectations



Building Skills



Rewards and Recognition



Positive Relationships

Success at Granger High School

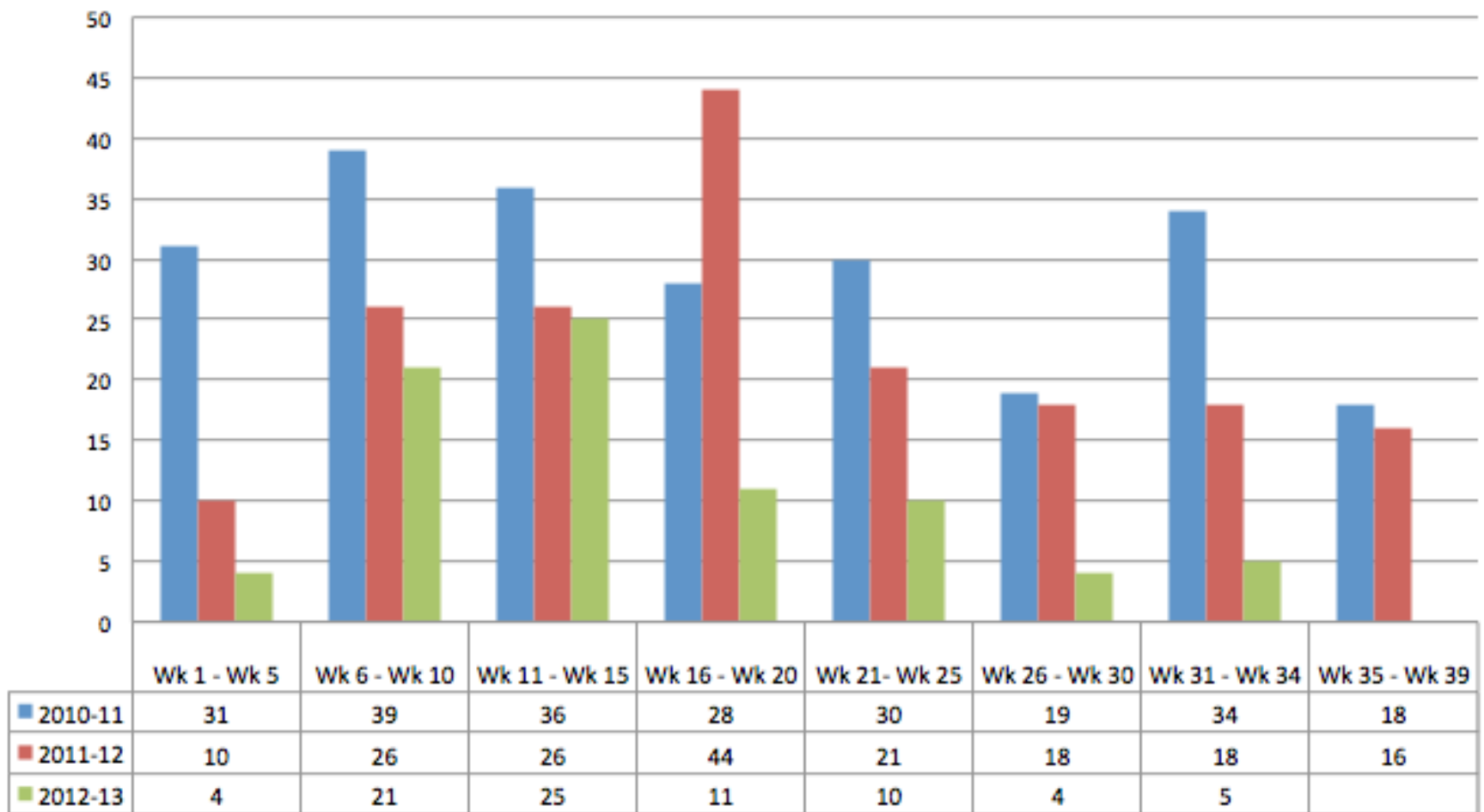
	2010-11	2011-2012	2012-13
Students Suspended	235	179	80
Class Periods Missed	2,136	1,036	765
School Days Missed	534	259	191

Fights

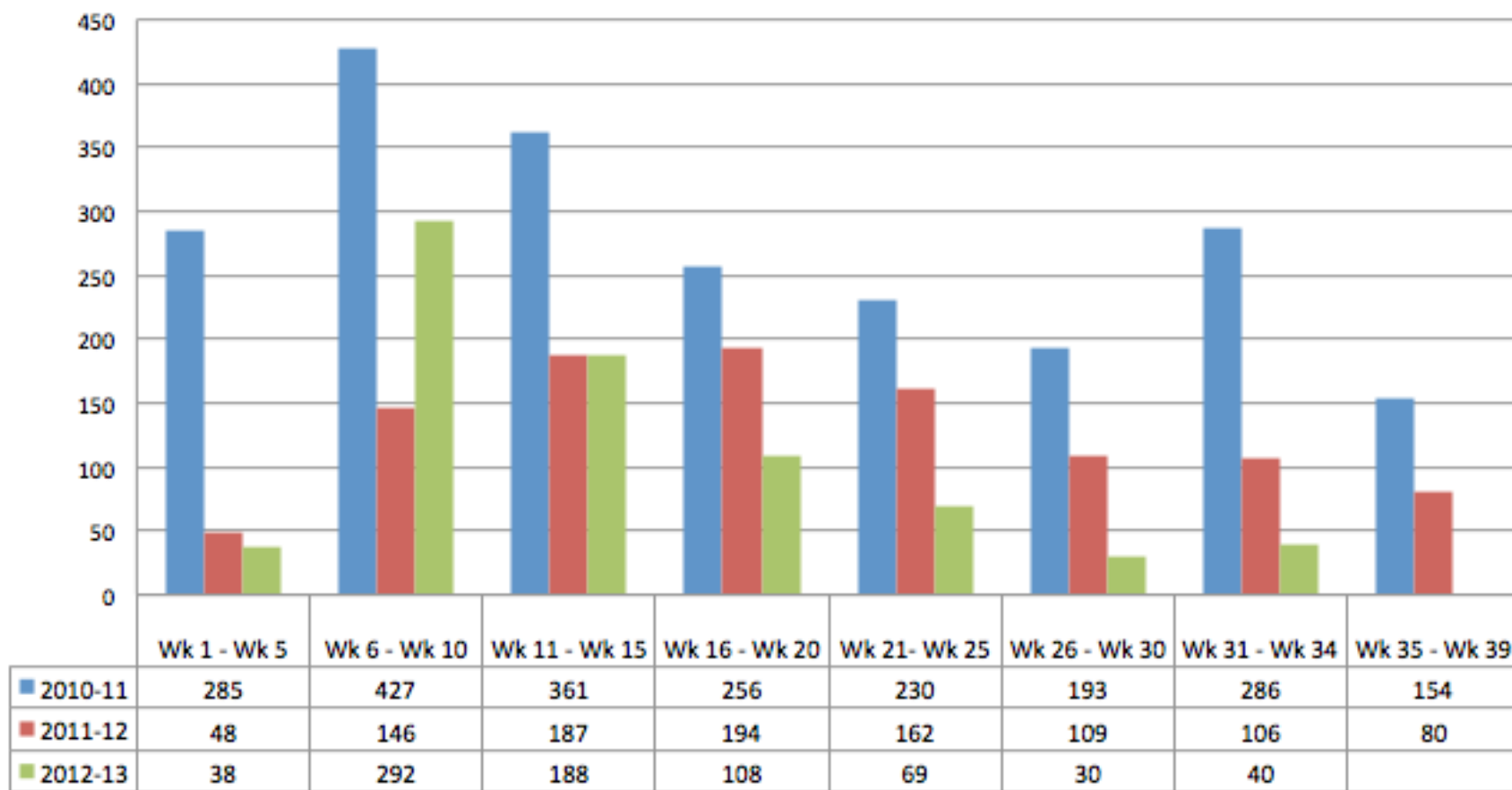
2009-10	45
2010-11	39
2011-12	19
2012-13	11

The severity and nature of incidents also shifted from large-scale fights (mainly between males involved in gang-affiliated rivalries) to relatively minor altercations driven by individual disagreements.

Number of Students Suspended



Number of Periods Missed Due to Suspension



Increasing Graduation Rates

2010	2011	2012	2013
57%	59%	63.5%	70%

As More Students in a School Detect the Conditions for Learning, Academic Achievement Increases

- 200 Elementary
- 49 Middle/Jr. High
- 41 High Schools

For Individual Conditions

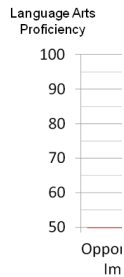
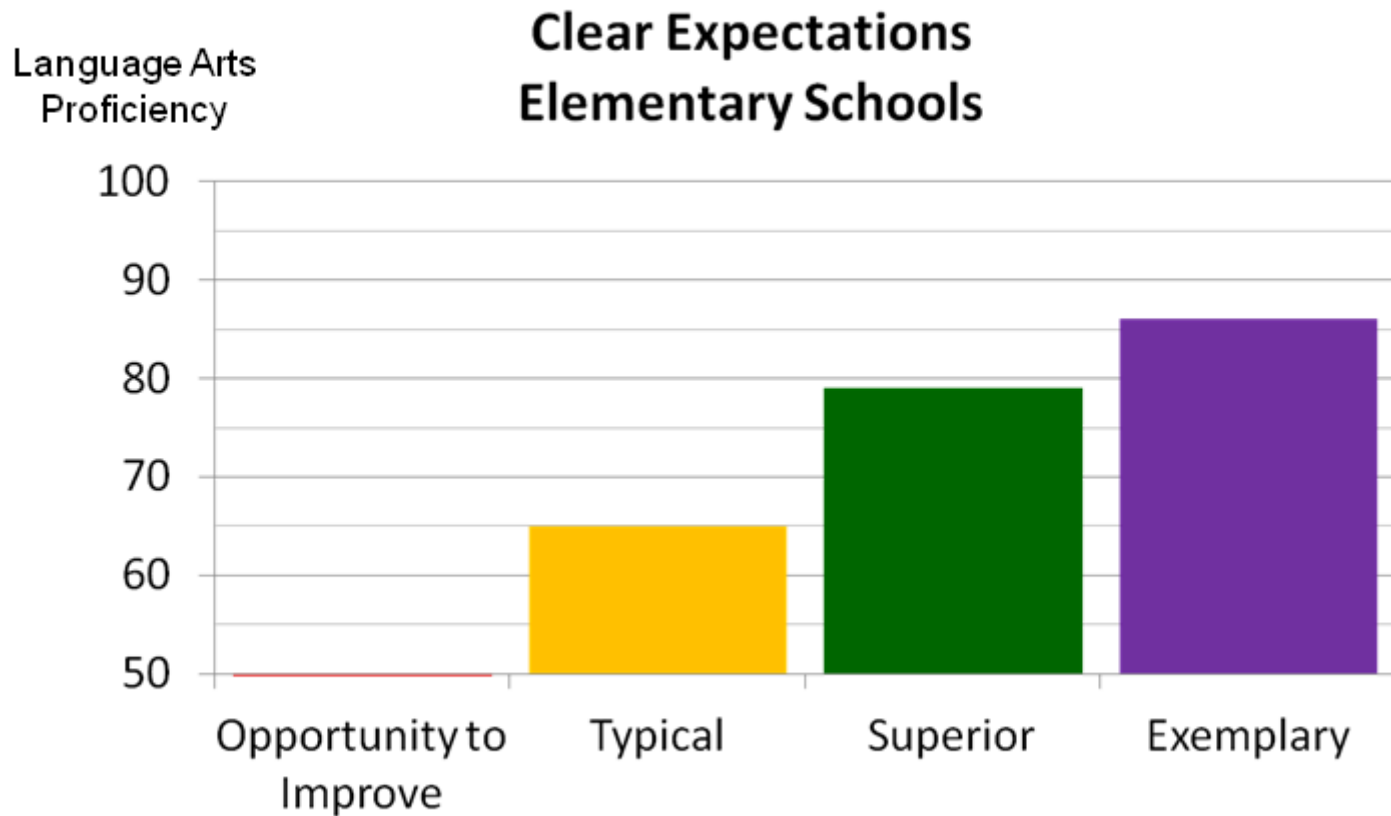
<70% of Students

70-80% of Students

80-90% of Students

90-100% of Students

Predicting Academic Achievement



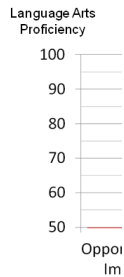
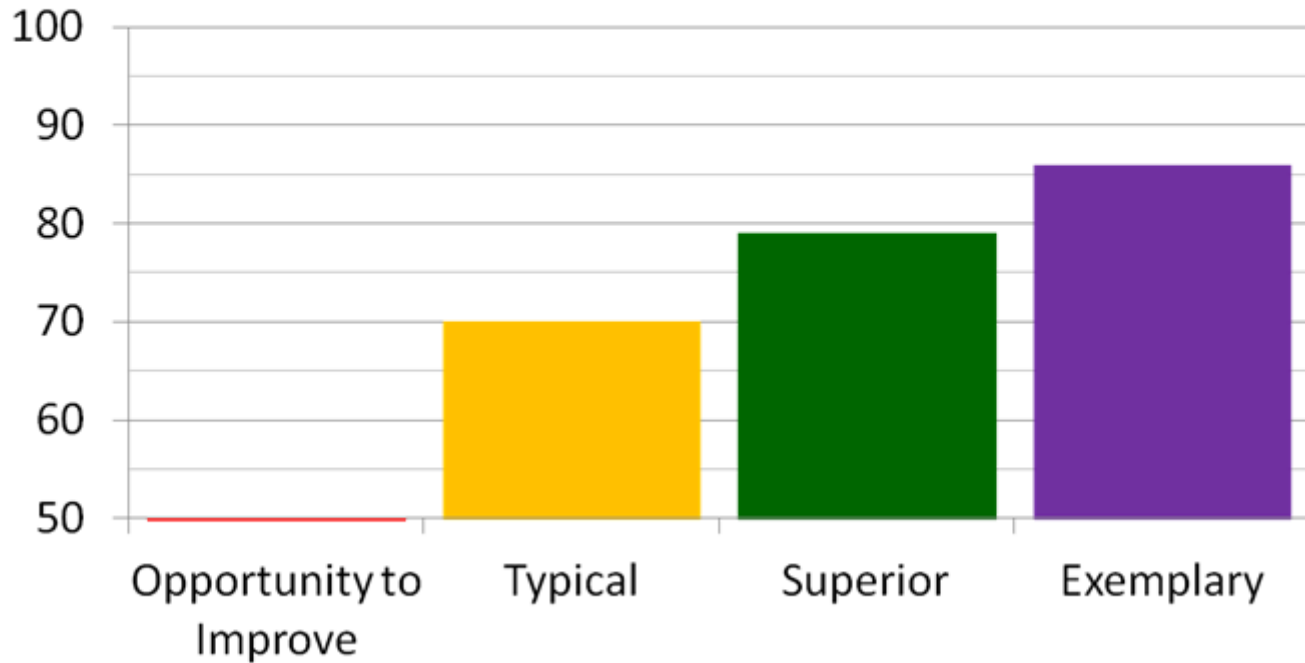
Predicting Academic Achievement

Language Arts
Proficiency

Positive Relationships
Elementary Schools

Language Arts
Proficiency

**Positive Relationships
Elementary Schools**



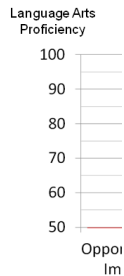
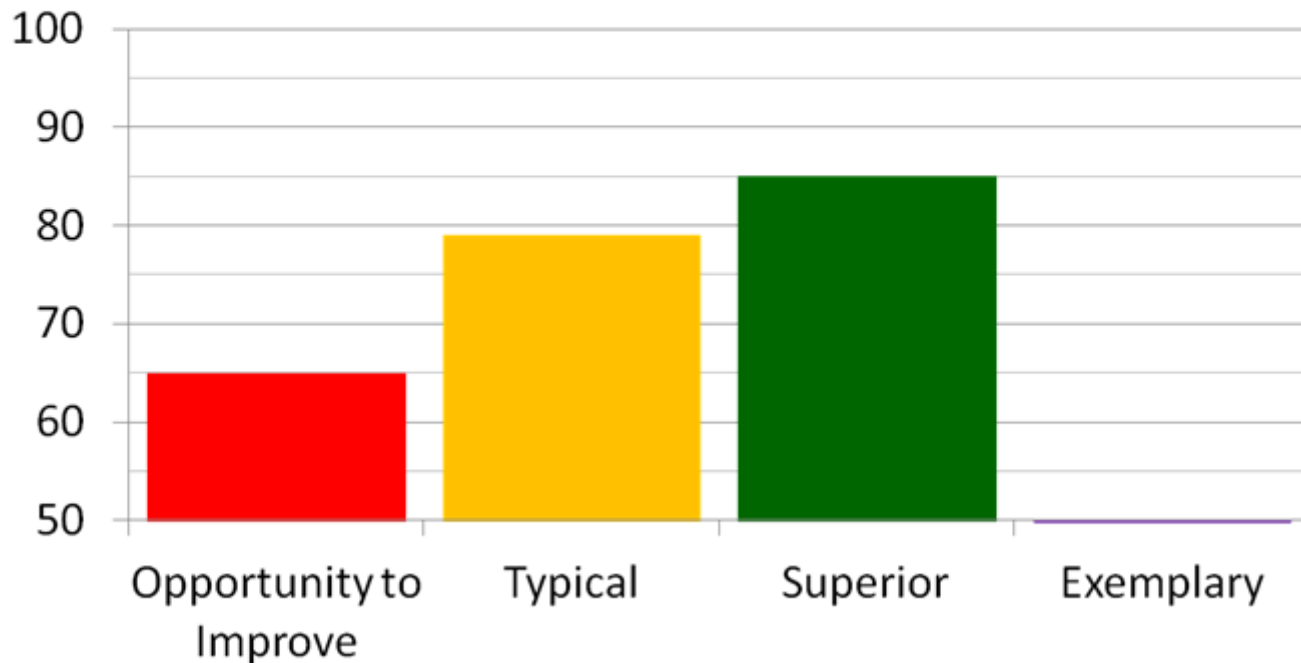
Predicting Academic Achievement

Language Arts
Proficiency

Positive Relationships
Elementary Schools

Language Arts
Proficiency

Academic Skill Building Elementary Schools



Opportunity to Improve Typical Superior Exemplary

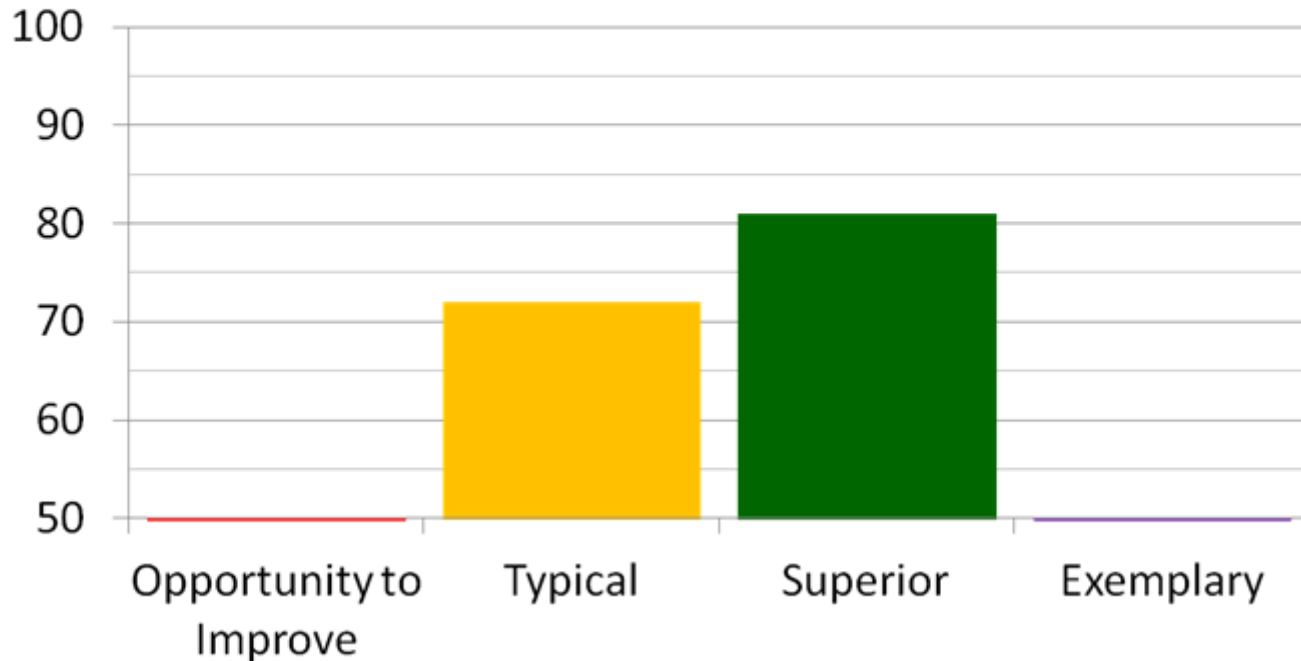
Predicting Academic Achievement

Language Arts
Proficiency

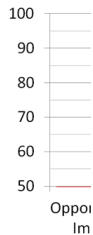
Positive Relationships
Elementary Schools

Language Arts
Proficiency

**Social Skill Building
Elementary Schools**



Language Arts
Proficiency



Opportunity to
Improve

Typical

Superior

Exemplary

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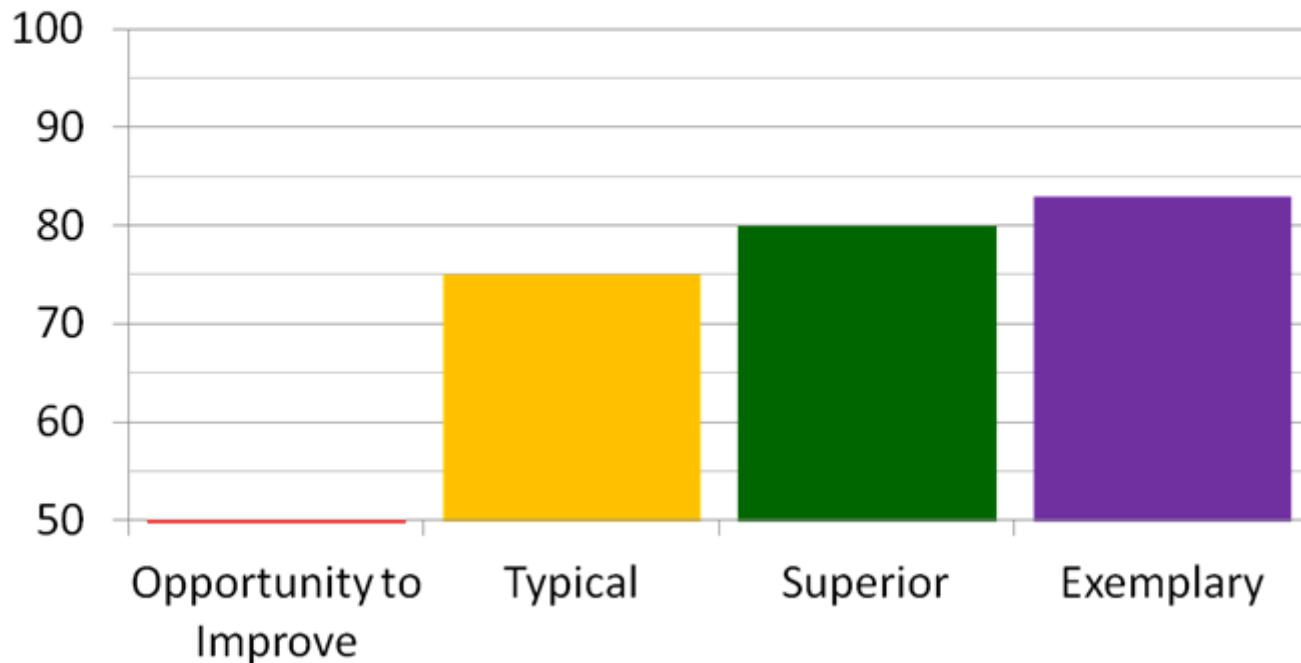
Predicting Academic Achievement

Language Arts
Proficiency

Positive Relationships
Elementary Schools

Language Arts
Proficiency

Rewards & Recognition Elementary Schools



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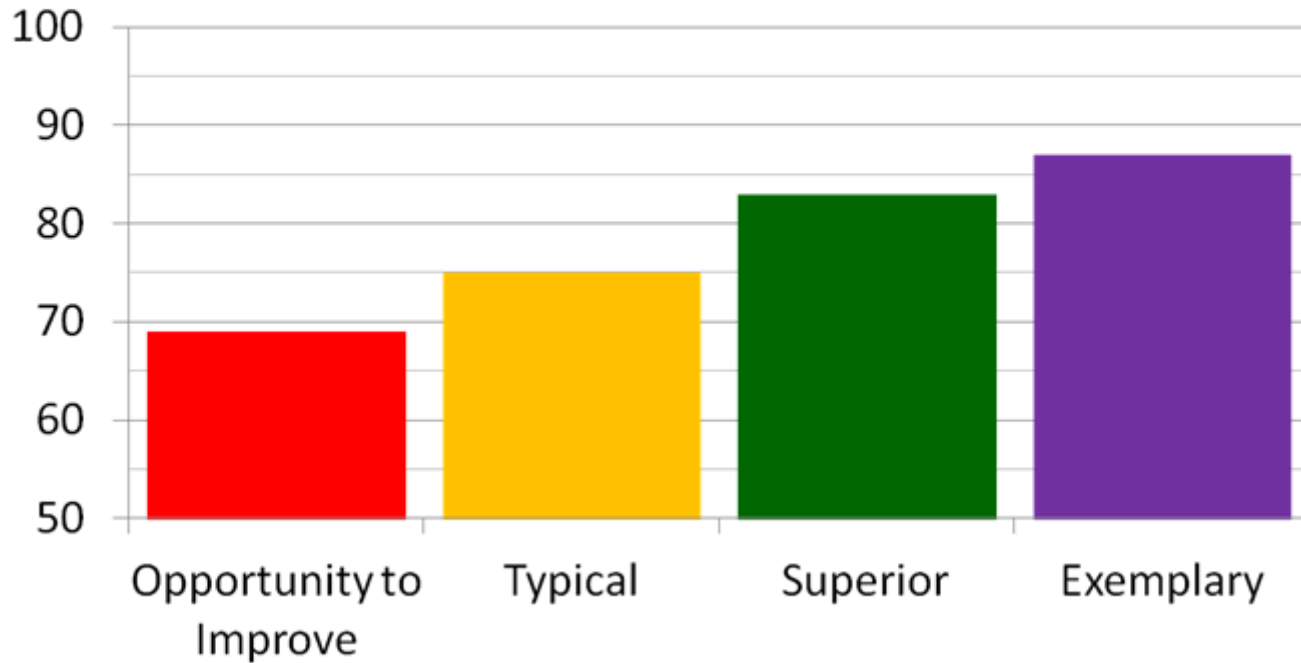
Predicting Academic Achievement

Language Arts
Proficiency

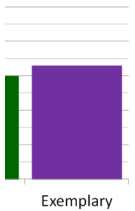
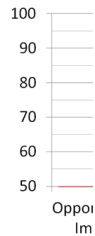
Positive Relationships
Elementary Schools

Language Arts
Proficiency

All Conditions
Elementary Schools



Language Arts
Proficiency



Opportunity to
Improve

Typical

Superior

Exemplary

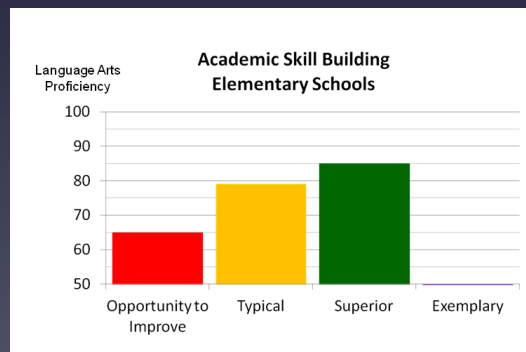
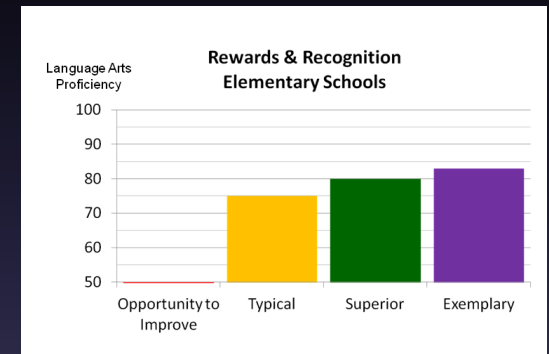
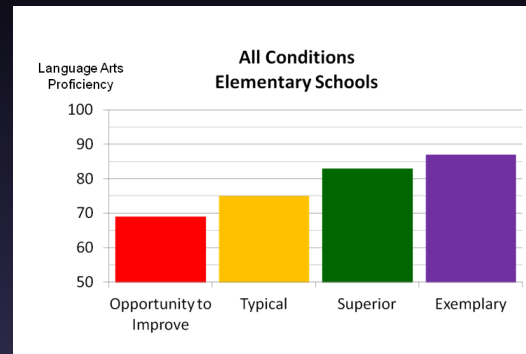
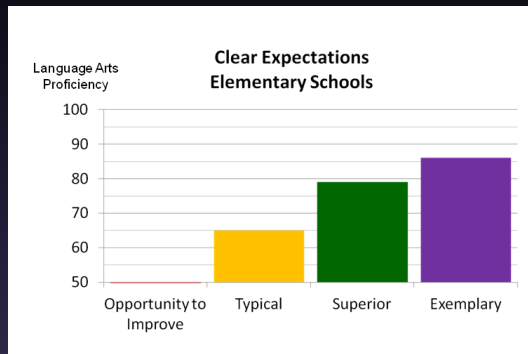
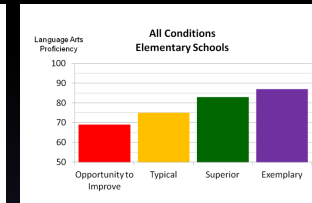
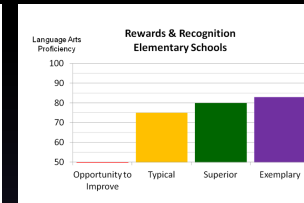
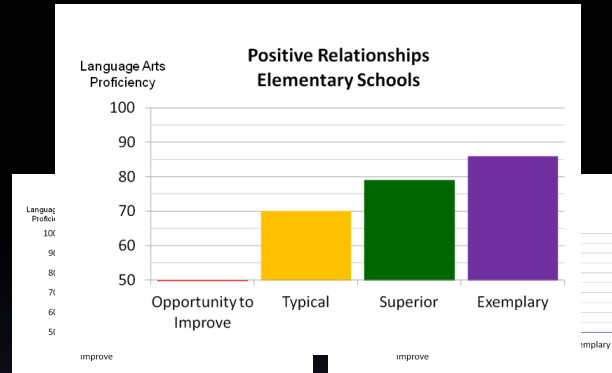
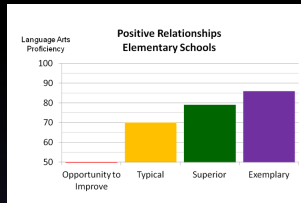
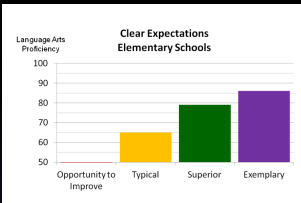
Opportunity to
Improve

Typical

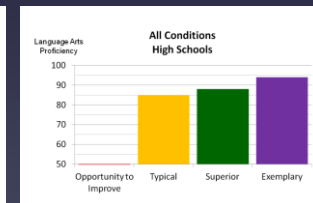
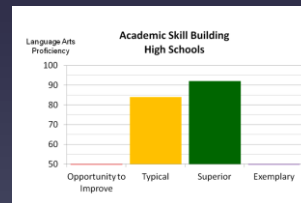
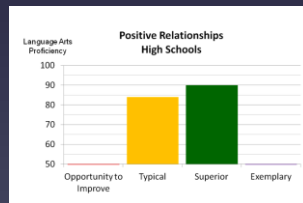
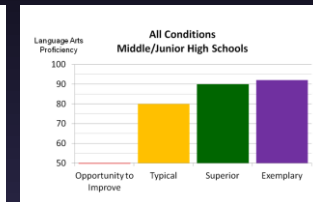
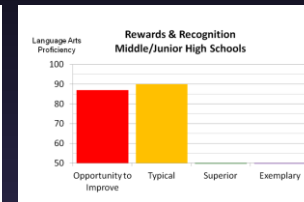
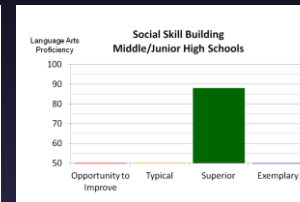
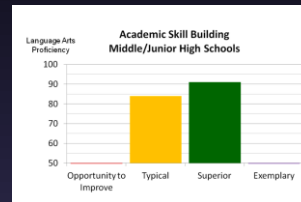
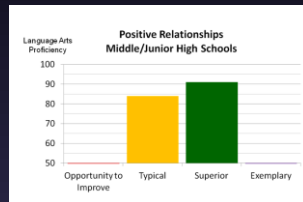
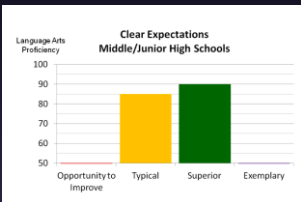
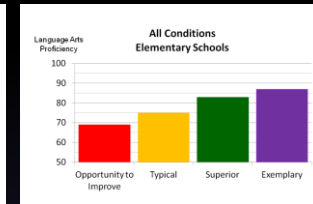
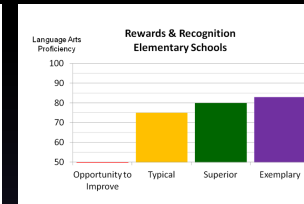
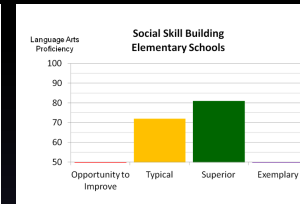
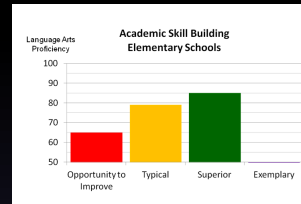
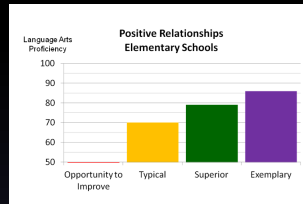
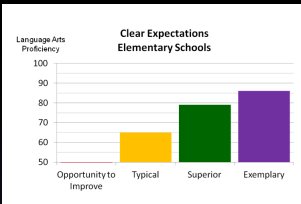
Superior

Exemplary

Predicting Academic Achievement



If Students Report Having These Conditions, They Learn and Achieve...



If These Conditions are Missing...

Students will *not* learn, in spite of everything
else we may do or wish to do.

